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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/025,821 | 12/26/2001 | Satoshi Shinada | Q67781 | 4266 |

7590 05/30/2003
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Washington, DC 20037-3213

| EXAMINER |
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LIANG, LEONARD S

| ART UNIT | PAPER NUMBER |
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2853

DATE MAILED: 05/30/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/025,821

Applicant(s)

SHINADA ET AL.

Examiner

Leonard S Liang

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03/13/03.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 13 March 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 21 is objected to because of the following informalities: The claim states “the positioning system contacts the positioning member to align the electrodes with respective contacts in at least two directions of a carriage moving direction, a paper feeding direction, **an** a vertical direction in a state in which the electrodes contact the contacts.” This is not proper grammar. It will be construed that the claim should state (the positioning system contacts the positioning member to align the electrodes with respective contacts in at least two directions of a carriage moving direction, a paper feeding direction, **and** a vertical direction in a state in which the electrodes contact the contacts.” Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

2. Claims 1-6, 8-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Seino et al (US Pat 6361138).

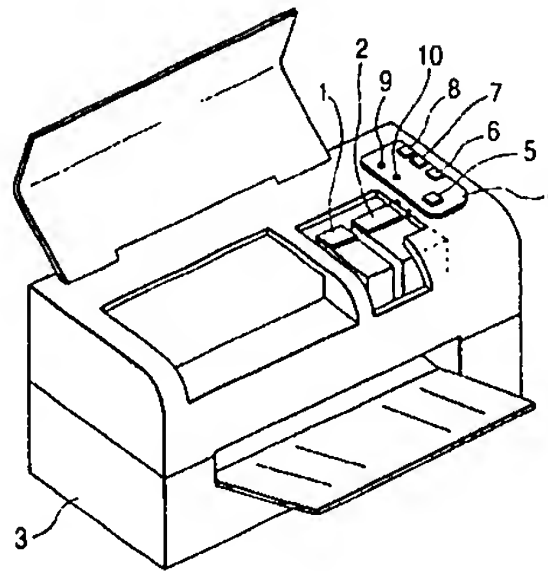
Seino et al discloses:

Art Unit: 2853

- {claim 1} An ink cartridge for an ink-jet recording apparatus (figure 1, references 1,2);

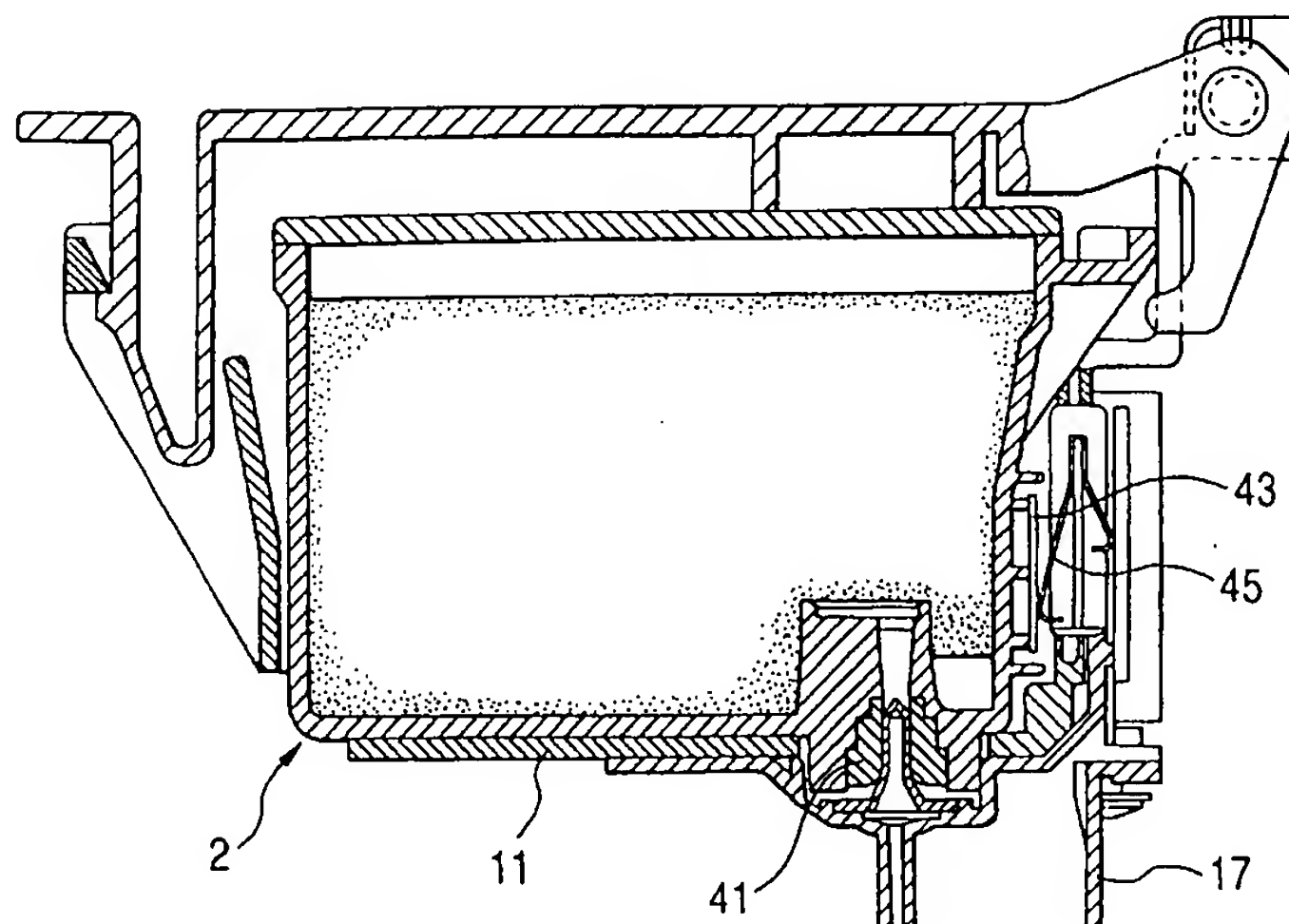
U.S. Patent Mar. 26, 2002 Sheet 1 of 7 US 6,361,138 B1

FIG. 1

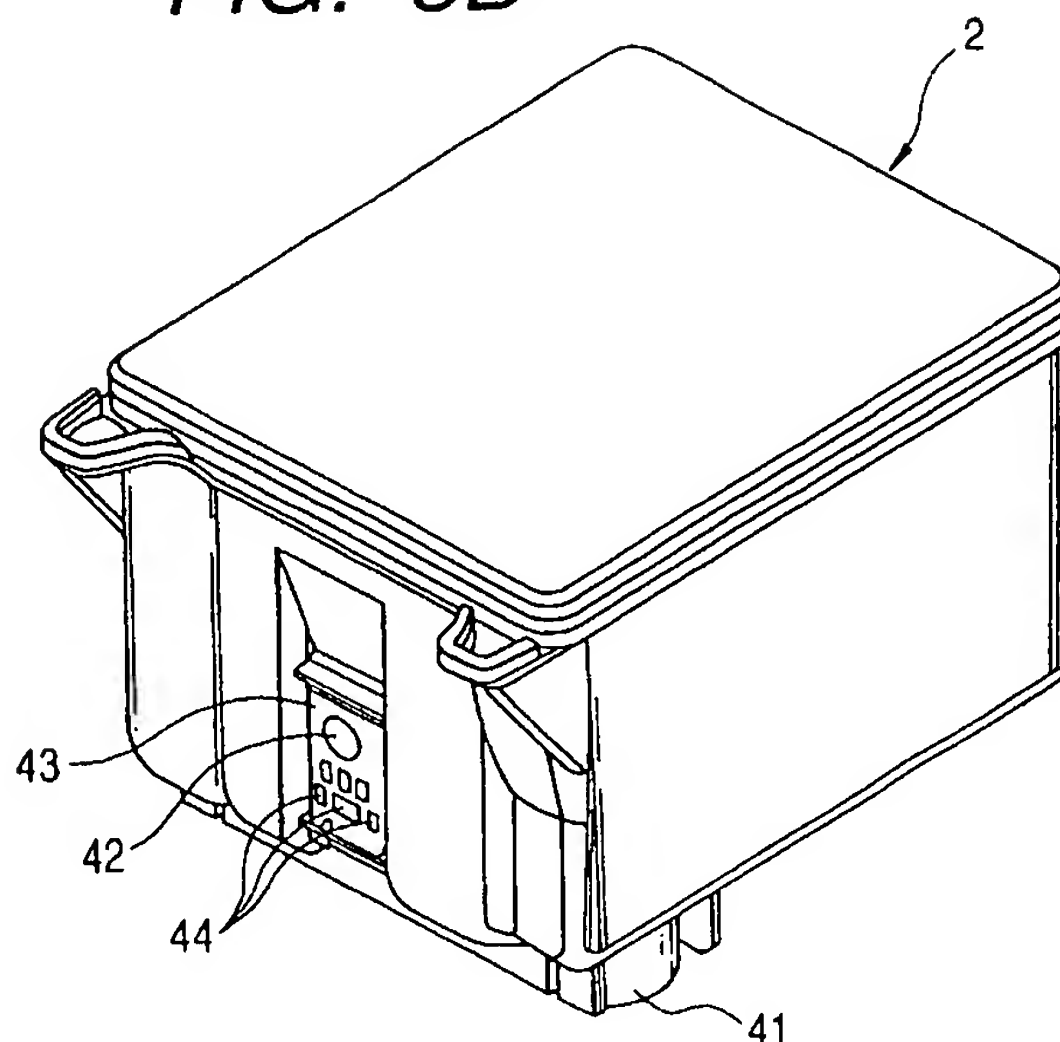


container body having an ink supply port (figure 4B, reference 41; container body drawn in);

FIG. 4B



a storage element disposed on the container body (figure 3B, reference 42);

FIG. 3B

electrodes to be in contact with respective contacts provided in the recording apparatus accommodating the container body therein (figure 3B, reference 44; figure 4B, reference 43 and 45; contacts represent contact electrodes); positioning system which is formed in the vicinity of the electrodes and is adapted to engage a positioning member of the recording apparatus, wherein the positioning system contacts the positioning member (figure 4B; hook portion, lever, protruded portions, gear, and projections drawn in; it is seen that when the lever is lifted in a counter-clockwise direction around the gear, the projection engages the protruded portions, which behave as positioning members for the recording apparatus; thus the claim is naturally suggested in the invention)

- {claim 2} positioning system includes at least one recess that has an opening at a leading end thereof in an ink cartridge insertion direction, and that is engageable with the positioning member formed as a protrusion (figure 4B; positioning recessed portion, guiding protruding portion drawn in; it is seen that when the lever is lifted in a counter-clockwise direction around the gear, positioning recessed portion moves away from the guiding protruding portion; thus in the

alternate direction, the recess is engageable with the positioning member; thus the claim is inherent to the invention)

- {claim 3} at least one recess includes a pair of recesses located opposite from each other with respect to the electrodes (figure 3B; additional recess drawn in; it is seen that positioning recessed portion and additional recess are located opposite from each other with respect to the electrodes)
- {claim 4} recess has an upper end wall to be contacted with an upper end of the protrusion (figure 4B; upper end wall drawn in)
- {claim 5} the wall extends in parallel to a direction in which the electrodes are arranged (figure 3B; wall drawn in between contact electrodes and positioning recessed portion; it is seen that the wall extends in parallel to a direction in which the electrodes are arranged)
- {claim 6} a contact area between the wall and the positioning member is wider than a width of an area in which the electrodes are arranged (figure 3B; the width of the area between the wall and the positioning member is [W1] and the width of the area in which the electrodes are arranged [W2] are drawn in; it is seen that $W1 > W2$)
- {claim 8} the storage element and the electrodes are mounted on a same flexible cable (figure 3B, references 42, 44; column 3, lines 19-21; figure 3B shows the storage system being on the same cable strip as the electrodes and column 3 teaches that the storage element is located on a flexible cable; thus it is inherent to the invention that the electrodes are also located on the flexible cable)
- {claim 9} an ink cartridge for an ink-jet recording apparatus, comprising: a container body having an ink supply port; electrodes; a storage element; and a positioning recessed portion open to the side where the ink supply port is provided, and engageable with a protruding portion formed in the recording apparatus, wherein the positioning system contacts the positioning member (figures 3B and 4B)

Art Unit: 2853

- {claim 10} circuit board having the electrodes is accommodated in a recessed portion formed in the container body (figure 4B, references 43, 45)
- {claim 11} the positioning recessed portion is formed at a position below a circuit board having the electrodes (figure 4B, references 43, positioning recessed portion)
- {claim 12} a pair of the positioning recesses are provided to be located to be opposite from each other with respect to the electrodes (figure 3B)
- {claim 13} the container body has a recessed portion for accommodating a circuit board having the electrodes, and has a wall which defines the recessed portion and is brought into contact with a top surface of the protruding portion (figure 4B, reference 43, 45, upper end wall, positioning recessed portion, guiding protruding portion)
- {claim 14} the wall extends in parallel to a direction in which the electrodes are arranged (figure 3B)
- {claim 15} a contact area between the wall and the protruding portion is wider than a width of an area where the electrodes are arranged (figure 3B)
- {claim 16} the storage element is mounted on a circuit board (figure 3B, references 42-43)
- {claim 17} a flexible cable is connected to a circuit board having the electrodes, and the storage element is connected to the electrodes through the flexible cable (figure 3B; column 3, lines 19-21)
- {claim 18} the storage element is mounted on the flexible cable (as taught in claims 8 and 17 above)
- {claim 19} the storage element and the electrodes are mounted on a same flexible cable (as taught in claim 8 above)
- {claim 20} the positioning system contacts the positioning member to align the electrodes with respective contacts in at least two directions of a carriage moving direction, a paper feeding direction, and a vertical direction in a state in which the electrodes contact the contacts (figure 4B, reference 43, 45)

Art Unit: 2853

- {claim 21} the positioning system contacts the positioning member to align the electrodes with respective contacts in at least two directions of a carriage moving direction, a paper feeding direction, and a vertical direction in a state in which the electrodes contact the contacts (figure 4B, reference 43, 45)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Seino et al (US Pat 6361138) in view of Faoro (US Pat 5984461).

Seino discloses, with respect to claim 7, an ink cartridge (as applied to claim 1 above)

Seino et al differs from the claimed invention in that it does not disclose that the positioning system includes a blind hole opened at a bottom surface of the container body.

Faoro discloses, with respect to claim 7, a blind hole (figure, reference 10; column 2, lines 1-8). Faoro teaches that the blind hole serves for puncturing by an ink needle and prevents the needle from causing damage.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the blind hole of Faoro into the invention of Seino et al so that the blind hole is punctured by the ink needle. The motivation for the skilled artisan in doing so is to gain the benefit of preventing the needle from causing damage.

Response to Arguments

4. Applicant's arguments, filed on 03/13/03 have been considered but are not persuasive.

The applicant submits that “the ‘protruded portion’ of figure 3B is not a positioning system which is formed in the vicinity of the electrodes, as recited in claim 1. As shown in figure 3B, the protruded portions are located at the top right and left corners of the front face of the jet ink cartridge, away from and not in the vicinity of the electrodes 44. To the contrary, in Seino, the electrodes 44 are formed in the lower half of the front face of the jet ink cartridge, away from the protruded portions. Furthermore, nowhere in Seino is there any disclosure of a positioning system which contacts the positioning member, as recited in claim 1. Since the Examiner has not shown how the positioning system which is formed in the vicinity of the electrodes and which contacts the positioning member is inherently disclosed to one skilled in the art, Applicants submit that claim 1 is patentable.” The examiner submits that though the figures of Seino et al don’t explicitly show, the protruded portions (as drawn in) engaging the projections (as drawn in) to form a positioning system, the positioning system is there nonetheless. It should be clear to one of ordinary skill in the art that the projection must meet the protruded portions in order for the ink supply needles to engage the ink supply port and for the circuit board to meet the contacts of the recording device. The rotating action is not explicitly shown, but is always the case for a set-up as shown in figure 4B. Hence, the examiner maintains that the claimed limitation is inherent to the invention of Seino et al.

The applicant further submits, “the Examiner has failed to put forward a valid motivation to combine the teachings of Seino and Faoro. Examiner states that the motivation for the skilled artisan in combining Seino and Faoro is to gain the benefit of preventing the needle from causing damage. In Faoro, the blind hole inside the stopper 10 provides the benefit of preventing damage to a membrane 18 lining the tub 4. In Seino, however, there is no membrane or anything analogous to a membrane, and therefore, the blind hole as disclosed by Faoro would provide no benefit to Seino.” The examiner responds by pointing out that the ink supply needle disclosed by Seino et al (figure 4B) directly rubs against ink supply port 41. It should be obvious to one of ordinary skill in the art that prolonged rubbing of the ink supply needle against the ink supply port would cause wear and tear. Therefore, it makes sense to include the blind hole disclosed by Faoro to prevent the needle from causing damage. Furthermore, even though there is no membrane, both Seino and Faoro disclose the piercing of a needle in order to establish fluid

Art Unit: 2853

communication between the receptacle and a printer; thus the blind hole serves in helping to establish fluid communication as well.

The examiner is persuaded by the applicant's arguments with regard to claims 1-6 and 8-19 being rejected under U.S.C. 103(a) as being unpatentable over Saruta in view of Nagoshi. Thus the examiner has removed the rejection associated with Saruta and Nagoshi.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard S Liang whose telephone number is (703) 305-4754. The examiner can normally be reached on 8:30-5 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams can be reached on (703) 308-2847. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7724 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

lsl LSL
May 22, 2003


JUDY NGUYEN
PRIMARY EXAMINER